CLAIMS

1. A composite amplifier having a power amplifying stage consisting of an even number of power amplifiers arranged into a plurality of Chireix pairs (PA11, PA12; PA21, PA22) connected to a common load.

2. The amplifier of claim 1, including means (21) for driving at least one Chireix pair by drive signals having amplitude dependent phase over at least a part of the dynamic range of the composite amplifier.

3. The amplifier of claim 2, including means (21) for driving at least two Chireix pairs in outphasing mode over different parts of the dynamic range of the composite amplifier.

4. The amplifier of claim 3, including means (21) for driving each Chireix pair in outphasing mode over a different part of the dynamic range of the composite amplifier.

5. The amplifier of claim 3 or 4, wherein each Chireix pair includes an output network, at least two output networks being characterized by different compensating reactances.

6. The amplifier of claim 3 or 4, wherein each Chireix pair includes an output network, said output networks all being characterized by different compensating reactances.

7. The amplifier of claim 3 or 4, wherein each Chireix pair includes an output network formed by transmission lines of different length from each power amplifier in the pair to said common load, the length difference being different for at least two pairs.

8. The amplifier of claim 3 or 4, wherein each Chireix pair includes an output network formed by transmission lines of different length from each power am-

plifier in the pair to said common load, the length difference being different for all pairs.

9. The amplifier of claim 3, including means (21) for driving at least one Chireix pair with substantially linear current amplitudes above its corresponding outphased part of the dynamic range of the composite amplifier.

10. The amplifier of claim 3 or 9, including means (21) for driving at least one Chireix pair with substantially linear current amplitudes below its corresponding outphased part of the dynamic range of the composite amplifier.

11. A method of driving a composite amplifier including a plurality of Chireix pairs of power amplifiers connected to a common load, said method including the step of:

driving at least one Chireix pair by drive signals having amplitude dependent phase over at least a part of the dynamic range of the composite amplifier.

12. The method of claim 10, including the step of driving at least two Chireix pairs in outphasing mode over different parts of the dynamic range of the composite amplifier.

13. The method of claim 12, including the step of driving each Chireix pair in outphasing mode over a different part of the dynamic range of the composite amplifier.

14. The method of claim 13, including the step of driving at least one Chireix pair with substantially linear current amplitudes above its corresponding outphased part of the dynamic range of the composite amplifier.

15. The method of claim 13 or 14, including the step of driving at least one Chireix pair with substantially linear current amplitudes below its corresponding outphased part of the dynamic range of the composite amplifier.

16. A radio terminal having a power amplifying stage consisting of an even number of power amplifiers arranged into a plurality of Chireix pairs (PA11, PA12; PA21, PA22) connected to a common load.

17. The radio terminal of claim 16, including means (21) for driving at least one Chireix pair by drive signals having amplitude dependent phase over at least a part of the dynamic range of the composite amplifier.

18. The radio terminal of claim 17, including means (21) for driving at least two Chireix pairs in outphasing mode over different parts of the dynamic range of the composite amplifier.

19. The radio terminal of claim 18, including means (21) for driving each Chireix pair in outphasing mode over a different part of the dynamic range of the composite amplifier.

20. The radio terminal of claim 17 or 18, wherein each Chireix pair includes an output network, at least two output networks being characterized by different compensating reactances.

21. The radio terminal of claim 17 or 18, wherein each Chireix pair includes an output network, said output networks all being characterized by different compensating reactances.

22. The radio terminal of claim 17 or 18, wherein each Chireix pair includes an output network formed by transmission lines of different length from each power amplifier in the pair to said common load, the length difference being different for at least two pairs.

23. The radio terminal of claim 17 or 18, wherein each Chireix pair includes an output network formed by transmission lines of different length from each

power amplifier in the pair to said common load, the length difference being different for all pairs.

24. The radio terminal of claim 17, including means (21) for driving at least one Chireix pair with substantially linear current amplitudes above its corresponding outphased part of the dynamic range of the composite amplifier.

25. The radio terminal of claim 17 or 24, including means (21) for driving at least one Chireix pair with substantially linear current amplitudes below its corresponding outphased part of the dynamic range of the composite amplifier.

26. The radio terminal of any of claims 16-25, wherein said radio terminal is a mobile radio terminal.

27. The radio terminal of any of claims 16-25, wherein said radio terminal is a base station.
